

Claims

1. A device for controlling braking force of a vehicle having front and rear wheels and braking force generating apparatuses provided for each of the wheels, the device executing braking force distribution control through restricting the increase of the braking force on the rear wheels, generated by the braking force generating apparatuses of the rear wheels, for providing a braking force distribution among the front and rear wheels, biased to the front wheels, under a predetermined condition, wherein the device controls the braking force generating apparatuses of the front wheels to increment braking force generated on the front wheel, depending upon an restricted amount of the braking force on the rear wheel during execution of the braking force distribution.

2. A device of claim 1, comprising a master cylinder receiving a braking action by a driver of the vehicle and providing an operational fluid pressure corresponding to the braking action to wheel cylinders in the braking force generating apparatuses, wherein the increase of the braking force of the rear wheel is restricted by restricting the increase of pressures in the wheel cylinders of the rear wheels; and the front wheel braking force is incremented by determining an increment in the wheel cylinders of the front wheels based upon the braking action by the driver, the pressures in the wheel cylinders of the rear wheels and parameters each indicating braking performances of the respective braking force generating apparatuses of the

front and rear wheels; and incrementing pressures in the front wheel cylinders based upon the increment.

3. A device of claim 2, the vehicle having a sensor monitoring a vehicle speed, and wherein the parameters indicate braking performances which decreases as the vehicle speed increases.

4. A device for controlling a braking of a vehicle having front and rear wheels, a braking system generating braking forces on the respective wheels, at least one sensor monitoring an operational condition of the vehicle including a detector detecting an amount of a braking action by a driver of the vehicle, the device executing a braking force distribution control in which braking force on the rear wheels is lowered in comparison with braking force on the front wheels when an operational condition monitored by a sensor among the at least a sensor stratifies a predetermined condition, characterized in that braking force on the front wheels during execution of the braking force distribution control is increased, where a braking force increment on the front wheel beyond braking force corresponding to the braking action is determined based upon an increment of the braking action by the driver detected by the detector.

5. A device of claim 4, characterized in that the braking force increment on the front wheel is determined based upon the increment of the braking action and braking force on the rear wheels.

6. A device of claim 4, characterized in that, during execution of an auxiliary braking control for increasing braking force on the wheels beyond braking force corresponding to the amount of braking action by the driver in addition to execution of the braking force distribution control, the braking force increment on the front wheels is determined based upon the increment of the braking action and an increment of braking force requested by the auxiliary braking control.

7. A device of claim 4, wherein the braking system comprises a hydraulic circuit connected with a master cylinder and braking force generating apparatus including wheel cylinders provided for the respective wheels; the braking action is reflected in a pressure in the master cylinder pressure, characterized in that, during execution of an auxiliary braking control for increasing braking force on the wheels beyond braking force corresponding to the amount of the braking action by the driver in addition to execution of the braking force distribution control, the braking force increment on the front wheels is determined based upon a difference between a current master cylinder pressure and a rear wheel cylinder pressure at the starting of the braking force distribution control and an increment of braking pressure requested by the auxiliary braking control; and in absence of the auxiliary braking control, the braking force increment on the front wheels is determined based upon a difference between a current master cylinder pressure and the rear wheel cylinder pressure at the

starting of the braking force distribution control.

8. A device of claim 7, characterized in that the rear wheel cylinder pressure at the starting of the braking force distribution control is a sum of a master cylinder pressure and an increment of braking pressure requested by the auxiliary braking control to the rear wheels at the starting of the braking force distribution control during any auxiliary braking control is executed.

9. A device of claim 7, characterized in that the increment requested by the auxiliary braking control is that requested to the rear wheels when the increments requested to the front and rear wheel cylinders by the auxiliary braking control are different from each other.

10. A device of claim 4, characterized in that the braking force increment on the front wheels are substantially equal to the restricted amount of the braking force on the rear wheels.

11. A device of claim 6, characterized in that the auxiliary braking control is a braking assist control to be executed when an abrupt braking action is executed.

12. A device of claim 4, characterized in that, during execution of the braking force distribution control, the braking force on the rear wheels is held at a predetermined value.

13. A device of claim 7, characterized in that, during execution of the braking force distribution control, the pressures in the rear wheel cylinders are held at a predetermined pressure.